UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,655	12/22/2000	George Beshara Bendak	AMCC4840 C/M # 103747-165	1814

7590 04/04/2005	EXAMINER
Terrance A. Meador INCAPLAW 1050 Rosecrans Street, Suite K San Diego, CA 92106	SCHEIBEL, ROBERT C

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/745,655	BENDAK ET AL.
	Examiner	Art Unit	
	Robert C. Scheibel	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _10/18/04_
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-14,16-18,20,21,24-44,46-57 and 59-63_ is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☐ Claim(s) _1-14,16-18,20,21,24,25,27-35,37-44,46-57 and 59-63_ is/are rejected.
7) ☐ Claim(s) _26 and 36_ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on _18 October 2004_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments, see the second paragraph of page 19, filed 10/18/2004, with

respect to the objection to the specification have been fully considered and are persuasive. The

objection to the specification has been withdrawn.

2.   Applicant's arguments, see the third paragraph of page 19, filed 10/18/2004, with respect

to the first objection to the drawings have been fully considered and are persuasive. The first

objection to the drawings has been withdrawn.

3.   Applicant's arguments, see the third paragraph of page 19, filed 10/18/2004, with respect

to the second objection to the drawings have been fully considered but they are not persuasive.

The drawings still do not include the reference sign 136 which is mentioned in the specification

(see line 5 of page 16). This objection is maintained below.

4.   Applicant's arguments, see the fourth paragraph of page 19, filed 10/18/2004, with

respect to the objection to claims 1-3, 16, and 36 have been fully considered and are persuasive.

The objection to claims 1-3, 16, and 36 has been withdrawn.

5.   Applicant's arguments, see paragraphs 5-10 on page 19, filed 10/18/2004, with respect to

the rejection of claims 1-7, 15-20, 22-25, 38-41, 45-52, 58-60, and 63 under 35 U.S.C. 102(b)

have been fully considered but they are not persuasive. Applicant argues that the Schneider

reference does not teach the limitation of selecting the location of the frame synchronization

bytes now present in the independent claims. Examiner maintains the previous rejection of

similar subject matter found in dependent claims in the previous office action. Although the

Schneider reference does not implement the selecting steps in the same manner as that described

in the specification of the present application, it does anticipate the invention as specified with the present broad claim language. Specifically, in the last office action, figures 3 and 4 and the locations of the AFSW and the FSW were used in rejecting subject matter similar to that currently amended in claim 1, for example. To clarify this a bit, Schneider teaches the use of a "long frame sync word" (LFSW) (which is the combination of the stuff bits of a previous frame (AFSW) and the standard frame sync word of the present frame (FSW). The stuff bits are not always generated, thus the location of the frame sync word is essentially at the start of the FSW field in some cases (when the stuff bits are not added) and at the start of the AFSW field (the start of the LFSW) in other cases (when the stuff bits are added). See lines 32-34 of column 5 for a description of when the stuff bits are added. See also the passage from line 60 of column 5 through line 27 of column 6 for a description of the LFSW being the combination of the stuff bits (AFSW) and the FSW. Thus, the transmitter is selecting the location of the frame synchronization word by determining whether or not the stuff bits are required. The rejection below provides more detail.

6.   Examiner also urges Applicant to consider U.S. Patent 5,896,426 to Ramamurthy et al (cited in the previous office action) when amending the current claims. This reference discloses a programmable synchronization character and includes selecting the value (element 14) and the encoding format (element 12). The selection of the format can be argued to make the selection of the character location obvious since different formats can have different synch character locations.

Drawings

7.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they

do not include the following reference sign mentioned in the description: 136 (line 5 on page 16).

A proposed drawing correction or corrected drawings are required in reply to the Office action to

avoid abandonment of the application. The objection to the drawings will not be held in

abeyance.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9.   Claims **1-7, 16-18, 20, 24-25, 38-41, 46-52, 59-60, and 63** are rejected under 35

U.S.C. 102(b) as being anticipated by U.S. Patent 6,445,719 to Schneider et al.

Regarding claim 1, Schneider discloses the step of defining a frame with an overhead

section having a predetermined number of bytes in lines 30-36 of column 1. Schneider discloses

the step of selecting the values of the bytes in the overhead section to be used for frame

synchronization in step 720 and 725 of Figure 7 which use FSW values selected from the values

in Figure 5. Schneider also discloses the limitation of selecting the location of the frame

synchronization bytes is disclosed in Figures 3 and 4 which show the selected location of the

synchronization words. The location of the synchronization word changes depending on whether

or not the stuff bits (AFSW) are added. If they are used, the frame sync word is the LFSW and

the location is at the start of the AFSW field; otherwise, the location is at the start of the FSW

field.

Regarding claim **18**, Schneider discloses the step of selecting the values of frame

synchronization bytes in the FSW values selected in Figure 5. Schneider discloses the steps of

sending the frame and receiving the frame are disclosed in Figure 6 and the associated

description (see lines 61-64 of column 6, for example). Schneider discloses the step of

synchronizing the received frame in response to recognizing the frame synchronization bytes in

the deframer of Figure 6 and in the passage from line 64 of column 6 through line 5 of column 7.

The limitation of selecting the values of the frame synchronization bytes in step 720 and 725 of

Figure 7 which use FSW values selected from the values in Figure 5. Schneider discloses the

limitation of synchronizing the received frames included synchronizing in response to

recognizing the synchronization byte value in the received frames in steps 830-840 of Figure 8

and described in lines 34-36 of column 3. The limitation of selecting the location of the frame

synchronization byte values in the transmitted frame is disclosed in Figures 3 and 4 which show

the selected location of the synchronization words. The same locations are used by the receiver

in the received frames received by device 104 of Figure 6.

Regarding claims **38 and 47**, Schneider discloses the limitations of an overhead

generator/receiver and a payload generator/receiver in elements 102 and 104 of Figure 6 and step

730 of Figure 7. As indicated in lines 13-29 of column 4, the receiver performs the inverse

operations of the transmitter, thus the overhead generator and payload generator have an

analogous overhead and payload receiver in the receiving device. The limitation of the encoder

providing FEC for the frame is disclosed by Schneider in lines 37-39 of column 4 which

indicate that the overhead bits are used for error correction (of which FEC is a well known type).

Schneider discloses the limitation of the overhead generator having an input to select a frame

synchronization byte value in steps 720 and 725 of Figure 7. The limitation (claim 38) that the

overhead generator selects the location of the frame synchronization byte values is disclosed in

Figure 4; the overhead generator must select the locations indicated by AFSW and FSW to

correctly populate the overhead region. The limitation (claim 47) that the overhead receiver

selects locations for the frame synchronization byte values is disclosed in Figure 4 and Figure 8;

the overhead receiver must select the locations indicated by AFSW and FSW to correctly extract

the overhead region and perform the synchronization as indicated in Figure 8.

Regarding claim **63**, Schneider discloses the limitations of a transmitter with a frame

generator including an overhead generator and a receiver with a frame receiver including an

overhead receiver in devices 102 and 104, respectively, of Figure 6. As indicated in the rejection

above, step 730 of Figure 7 discloses the transmitter portion and the passage from lines 13-29 of

column 4 indicates that the receiver performs the inverse operations and thus has a frame

receiver including an overhead receiver. The limitation of accepting a command to select the

value of the frame synchronization bytes in the transmitter is disclosed in step 725 of Figure 7.

The limitation of the receiver accepting commands to select the value of the frame

synchronization bits is disclosed in step 825 of Figure 8. As indicated in lines 30-34 of column 7

the synchronization word is preferably selected from the list in Figure 5. The limitation of the

overhead receiver synchronizing the frame in response to recognizing the frame synchronization

byte values is disclosed in steps 830-840 of Figure 8 and described in lines 34-36 of column 3.

The limitations that the transmitter and the receiver also select the locations of the frame

synchronization bytes is disclosed, as discussed in the rejections of claims 1, 18, 38, and 47

above, in the determination of whether stuff bits (AFSW) are required. The location of the frame

sync word changes based on whether or not the stuff bits are used. If they are used, the frame

sync word is the LFSW and the location is at the start of the AFSW field; otherwise, the location

is at the start of the FSW field.

Regarding claim **2**, with the limitations of parent claim 1 addressed above, Schneider

discloses the limitation of selecting the value of the frame synchronization bytes from a first

plurality of byte values in the selection of one of the values in Figure 5.

Regarding claim **3**, Schneider discloses the limitation of defining the frame including

defining each frame synchronization byte having a second plurality of bits in Figure 5 which

indicates that the FSWs are defined by a plurality of bits. The limitation of selecting the value of

synchronization bytes including selecting a second plurality of bits is disclosed in selecting one

of the values from this table as the synchronization word, thus selecting a plurality of bits.

Regarding claim **4**, Schneider discloses the limitation that the selection of the frame

synchronization bytes included selecting a plurality of frame synchronization byte values in

Figure 5. One row is selected in each case, the row comprised of a plurality of byte values in the

2 columns shown in Figure 5.

Regarding claim **5**, the limitation that the selection of synchronization bytes includes

selecting first and second values in Figure 5. The 2 columns represent the first and second

values.

Regarding claim **6**, the limitation of selecting a quantity of bytes in the overhead section

to be used for frame synchronization is disclosed in Figure 5, where the quantity selected is 2.

Regarding claim **7**, the limitation of defining the frame including defining the overhead

section is disclosed in Figures 3 and 4 which indicate the overhead section of the frame. The

overhead section comprises the AFSW, FSW, and the "overhead" parts of element 304. The

limitation that selecting the quantity of bytes in the overhead section includes selecting a number

of bytes in the range of the overhead bytes is disclosed in the AFSW and FSW fields being part

of the overhead. The limitation of selecting the value including selecting a first number of byte

values is disclosed in selecting a row of values for the AFSW and FSW fields from the values

listed in Figure 5.

Regarding claims **16 and 17**, the limitation that selecting the location of frame

synchronization bytes includes selecting synchronization bytes having a first and second value in

respective first and second locations in Figures 4 and 5. The first column of Figure 5 has a first

value as indicated, and has a first location (as indicated in AFSW in Figure 4). Similarly, the

second column has a second value and second location (FSW).

Regarding claim **20**, the limitation of selecting a first frame synchronization byte value is

disclosed in step 720 and 725 of Figure 7 which use FSW values selected from the values in

Figure 5. The limitation of synchronizing the received frames included synchronizing in

response to recognizing the first synchronization byte value in the received frames in steps 830-

840 of Figure 8 and described in lines 34-36 of column 3.

Regarding claim **24 and 25**, Schneider discloses the limitation of selecting the location of

the frame synchronization byte values in a transmitted frame includes selecting a first location

for a first value and a second location for a second value in Figures 4 and 5. The first column of

Figure 5 has a first value as indicated, and has a first location (as indicated in AFSW in Figure

4). Similarly, the second column has a second value and second location (FSW). The limitation

that the synchronizing of the received frame includes synchronizing in response to recognizing

the first and second values in the first and second locations is disclosed in steps 830-840 of

Figure 8 and described in lines 34-36 of column 3.

Regarding claim **39**, the limitation that the frame generator supplies a frame with a first

plurality of overhead bytes is disclosed in the framer 610 of device 102 of Figure 6. The framer

generates frames as described in Figures 3 and 4 which have a plurality of overhead bytes. The

limitation that the overhead generator accepts commands to select frame synchronization byte

values for each frame is disclosed in the selection of one of the values in Figure 5.

Regarding claim **40**, the limitation that the overhead generator selects a second plurality

of bits for each frame synchronization byte value is disclosed in Figure 5 which indicates that the

FSWs are defined by a plurality of bits. The limitation of selecting the value of synchronization

bytes including selecting a second plurality of bits is disclosed in selecting one of the values

from this table as the synchronization word, thus selecting a plurality of bits.

Regarding claim **41**, the limitation that the overhead generator selects values from a

plurality of byte values is disclosed in the plurality of values of Figure 5.

Regarding claim **46**, the limitation that the overhead generator selects first and second

values in first and second locations is disclosed in Figures 4 and 5. The first column of Figure 5

has a first value as indicated, and has a first location (as indicated in AFSW in Figure 4).

Similarly, the second column has a second value and second location (FSW).

Regarding claim **48**, the limitation that the overhead receiver selects a second plurality of

bits for each frame synchronization byte value is disclosed in Figure 5 which indicates that the

FSWs are defined by a plurality of bits. The limitation of selecting the value of synchronization

bytes including selecting a second plurality of bits is disclosed in selecting one of the values

from this table as the synchronization word, thus selecting a plurality of bits.

Regarding claim **49**, the limitation that the overhead receiver selects values from a

plurality of byte values is disclosed in the plurality of values of Figure 5.

Regarding claims **50 and 52**, the limitation that the frame receiver supplies a frame with

a first plurality of overhead section bytes is disclosed in the de-framer 624 of device 104 in

Figure 6. The de-framer receives frames as described in Figures 3 and 4 which have a plurality

of overhead bytes. The limitation that the overhead receiver selects frame synchronization byte

values for each frame is disclosed in the selection of one of the values in Figure 5.

Regarding claim **51**, the limitation that the overhead selects first and second

synchronization bytes having first and second values is disclosed in Figures 4 and 5. The first

column of Figure 5 has a first value as indicated, and has a first location (as indicated in AFSW

in Figure 4). Similarly, the second column has a second value and second location (FSW).

Regarding claims **59-60**, the limitation that the overhead receiver selects locations for the

frame synchronization byte values is disclosed in Figure 4 and Figure 8; the overhead receiver

must select the locations indicated by AFSW and FSW to correctly extract the overhead region

and perform the synchronization as indicated in Figure 8. The AFSW location and value are the

first location and value of claim 59. These same locations are selected in consecutive frames

(first and second frames), thus disclosing the limitations of claim 60.

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

11.   This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12.   Claims **12-14, 27-29, and 56-57** are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent 6,445,719 to Schneider et al in view of U.S. Patent 6,400,734 to

Weigand.

Regarding claims **12-14, 27-29, and 56-57**, Schneider discloses all the limitations of the

parent claims 1, 18, and 47 as addressed above.

Schneider does not disclose expressly the limitation of selecting the bit error rate of the

frame synchronization values(claims 12, 27, and 56), the limitation of this selecting including an

average bit error rate (claims 13, 28, and 57), or the limitation of the selecting of frame

synchronization byte values including selecting a frame synchronization value with a selected bit

error rate (claim 14), or the limitation of synchronizing including recognizing frame

synchronization byte values having a bit error rate of less than or equal to the selected rate (claim

29).

Weigand discloses the limitation of claims **12, 27, and 56** of selecting the bit error rate of

the frame synchronization values in lines 28-37 of column 3. The limitation of claim **14** that the

selecting of synchronization byte values includes selecting a value with a selected bit error rate is

disclosed by the same passage as it is clear that the selection of the bit error rate would be based

on the value of the word selected. The bit error rate of Weigand is an average bit error rate; line

3 of column 3 indicates that one un-matched bit is an error, and the number of errors is computed

over multiple bits during the correlation (see lines 45-67 of column 12). This is thus an average

number of bit errors (number of bit errors within the total number of bits used during

correlation). This discloses the limitation of claims **13, 28, and 57** of the selecting of bit error

rate including selecting an average bit error rate value. Further, Weigand discloses the limitation

of claim **29** of synchronizing the received frame in response to recognizing the frame

synchronization byte values includes recognizing frame synchronization byte values having a bit

error rate less than, or equal to, the selected frame synchronization bit error rates in lines 54-67

of column 12.

Schneider and Weigand are analogous art because they are from same field of endeavor

of synchronization using unique words in a digital communication system.

At the time of the invention it would have been obvious to a person of ordinary skill in

the art to modify Schneider by adding the capability of dynamically selecting the allowable error

rate for the synchronization word as taught by Weigand.

The motivation for doing so would have been to allow synchronization to occur even in adverse environmental conditions as suggested in the passage from line 60 of column 2 through line 3 of column 3.

Therefore, it would have been obvious to combine Weigand with Schneider for the benefit of synchronizing during adverse conditions to obtain the invention as specified in claims 12-14, 27-29, and 56-57.

13.   Claims **8-11, 30-35, 42-44, 53-55** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,445,719 to Schneider et al in view of U.S. Patent 5,646,947 to Cooper et al.

Regarding claims **8-11, 30-36, 42-44, and 53-55**, Schneider discloses all the limitations of the parent claims 1, 18, 38, and 47 as stated above.

Schneider does not disclose expressly disclose the limitations of claims 8-11, 30, 32-36, 42, 44, and 53, 55 regarding the superframe structure and related synchronization.

Regarding claims **8, 42, and 53**, Cooper discloses the limitation of defining a superframe structure with a predetermined number of frames per superframe in lines 39-41 of column 4 and figure 2. Cooper discloses the limitations of wherein selecting the values of frame synchronization bytes in the overhead section includes selecting the values of bytes in the overhead section of each frame in lines 13-26 of column 4. This passage indicates that the unique word values are used by the receiver to lock to the frames and superframes; these unique words for each frame must be selected prior to being used. Regarding claim **30**, Cooper discloses the limitation of defining a superframe structure and the limitation of setting the values

of the frame synchronization bytes including selecting byte values to be used for synchronization in each frame of the super frame in the passages and figures cited above with regard to claims 8, 42, and 53. Cooper further discloses the limitation of sending the frame including sending the frames in the superframe structure in figure 2. Cooper also discloses the limitation of synchronizing in response to recognizing the frame synchronization bytes included in each frame of the superframe in lines 13-26 of column 4.

Schneider and Cooper are analogous art because they are from same field of endeavor of frame synchronization.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Schneider to add support for a superframe structure as specified in Cooper. The motivation for doing so would have been to improve processor throughput as suggested in lines 48-51 of column 17.

Therefore, it would have been obvious to combine Cooper with Schneider for the benefit of improved processor throughput to obtain the invention as specified in claims 8, 30, 42, and 53.

Regarding claims **31, 43, and 54**, Schneider discloses the limitation of selecting a quantity of bytes in the overhead section to be used for frame synchronization in Figure 5, where the quantity selected is 2.

Regarding claim **32 and 33**, with the limitations of the parent claim 31 addressed above, Schneider discloses the limitation of selecting a quantity of bytes in the overhead section to be used for frame synchronization in Figure 5, where the quantity selected is 2. The limitation that wherein synchronizing the received frame in response to recognizing the frame synchronization bytes includes recognizing the selected quantity of frame synchronization byte values in each

frame of the superframe is disclosed inherently in that both synchronization bytes must be recognized in order to properly synchronize the stream in Schneider.

Regarding claim **35**, Schneider discloses the limitation of selecting a quantity of bytes in the overhead section to be used for frame synchronization in Figure 5, where the quantity selected is 2.

Regarding claims **9-11, 34, 44, and 55**, Schneider fails to disclose expressly the limitations of these claims. Cooper discloses the limitation of a first frame and a second frame in the superframe and selecting first and second values for each of these 2 frames in lines 13-29 of column 2 and in the UWs of figure 2. Cooper also discloses the limitation of the superframe structure containing a first, second, third, and forth frame and these frames including a first, second, third, and forth values in figure 2. These values can be any unique value including zero. Schneider and Cooper are analogous art because they are from same field of endeavor of frame synchronization. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Schneider to add support for a superframe structure as specified in Cooper. The motivation for doing so would have been to improve processor throughput as suggested in lines 48-51 of column 17. Therefore, it would have been obvious to combine Cooper with Schneider for the benefit of improved processor throughput to obtain the invention as specified in claims 9-10, 34, 44, and 55.

14.   Claims **21, 37, and 61-62** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,445,719 to Schneider et al in view of U.S. Patent 5,982,830 to Maturi et al.

Schneider discloses all the limitations of the parent claims 19 and 47 as described above.

Schneider does not disclose expressly the details of the synchronization described in claims 21, 37, and 61-62.

Maturi discloses the limitations of claims 21 and 61 regarding selecting the number of consecutive frames to be recognized in lines 49-51 of column 3. Maturi discloses the limitation of claims 37 and 62 regarding falling out of synchronization based on a number of consecutive frames in which the synchronization word is not detected in lines 5-9 of column 4. Schneider and Maturi are analogous art because they are from same field of endeavor of frame synchronization. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Schneider by adding the hysteresis scheme of Maturi described in the passages above. The motivation for doing so would have been to improve robustness by preventing false detection of the synchronization word and avoiding falling out of synchronization due to a small amount of errors. Therefore, it would have been obvious to combine Maturi with Schneider for the benefit of improving the robustness of the synchronization to obtain the invention as specified in claim 21, 37, and 61-62.

Allowable Subject Matter

15. Claims **26 and 36** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Robert C. Scheibel whose telephone number is 571-272-3169.

The examiner can normally be reached on Monday and Thursday from 6:30-5:00 Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RCS 3-24-05

Robert C. Scheibel
Examiner
Art Unit 2666

SEEMA S. RAO 3/30/05
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600